MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017/2018

TCC 3141 – CLOUD COMPUTING

(All Sections / Groups)

21 OCTOBER 2017
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 5 printed pages including cover page with 5 questions only.

2. Attempt **ALL** questions. All questions carry equal marks and the distribution of marks for each question is given.

3. Please write all your answers in the Answer Booklet provided.

Question 1 [10 Marks]

(a) Identity and Access Management (IAM) is primarily used to counter insufficient authorization and threats due to overlapping trust boundaries. List **FOUR (4)** main components of IAM. Give one example of an application for each component.

[4 marks]

(b) State the main functionality of the following cloud infrastructure mechanisms:

i. Logical network parameter.
ii. Cloud usage monitor.
iii. Resource replication.

[3 marks]

(c)

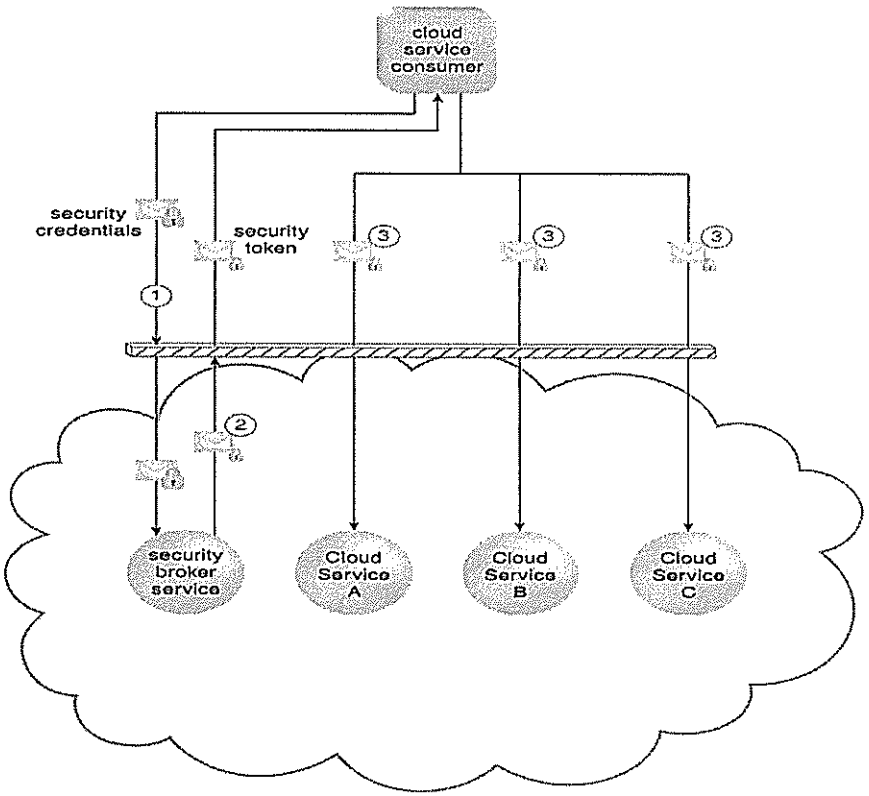

Figure 1

Based on Figure 1 above, identify the steps for single sign-on (SSO) for cloud services.

[3 marks]

Continued...

Question 2 [10 Marks]

(a) Differentiate between automated scaling listener and load balancer.

[2 marks]

(b) The audit monitor mechanism shown in Figure 2 below is used to collect audit tracking data for networks and IT resources dictated by regulatory and contractual obligations. Identify the execution steps of this mechanism.

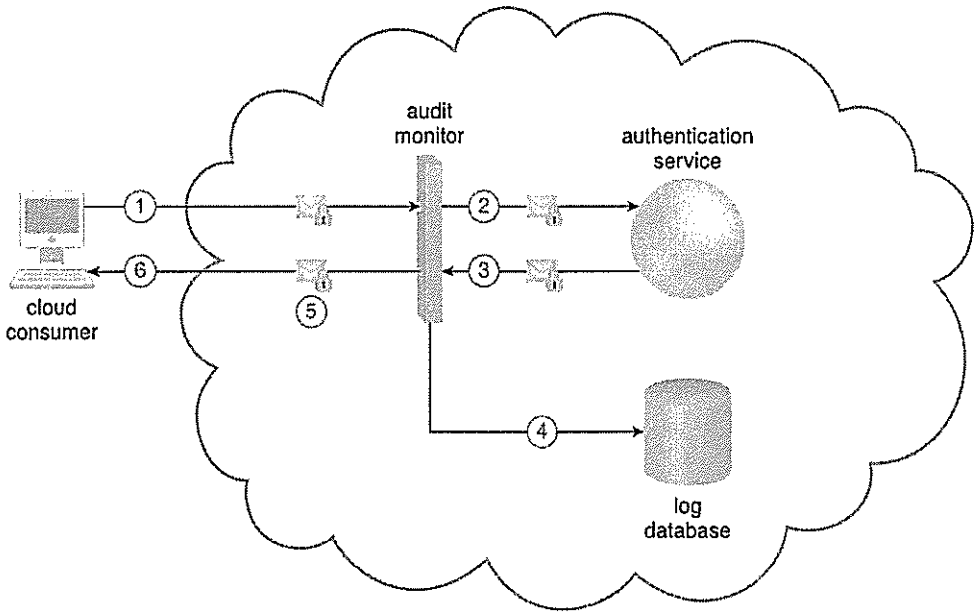

Figure 2

[6 marks]

(c) Identify **TWO (2)** tasks that can commonly be performed by cloud consumers via a remote administration control.

[2 marks]

Continued...

Question 3 [10 Marks]

(a) Compare between resource pooling architecture, elastic resource capacity architecture, and cloud bursting architecture.

[3 marks]

(b) Identify **TWO (2)** mechanisms that are applied for each of following architectures:

i. Workload distribution.
ii. Dynamic scalability.
iii. Service load balancing.

[3 marks]

(c) Analyze the operations of hypervisor cluster architecture based on information illustrated in Figure 3 below.

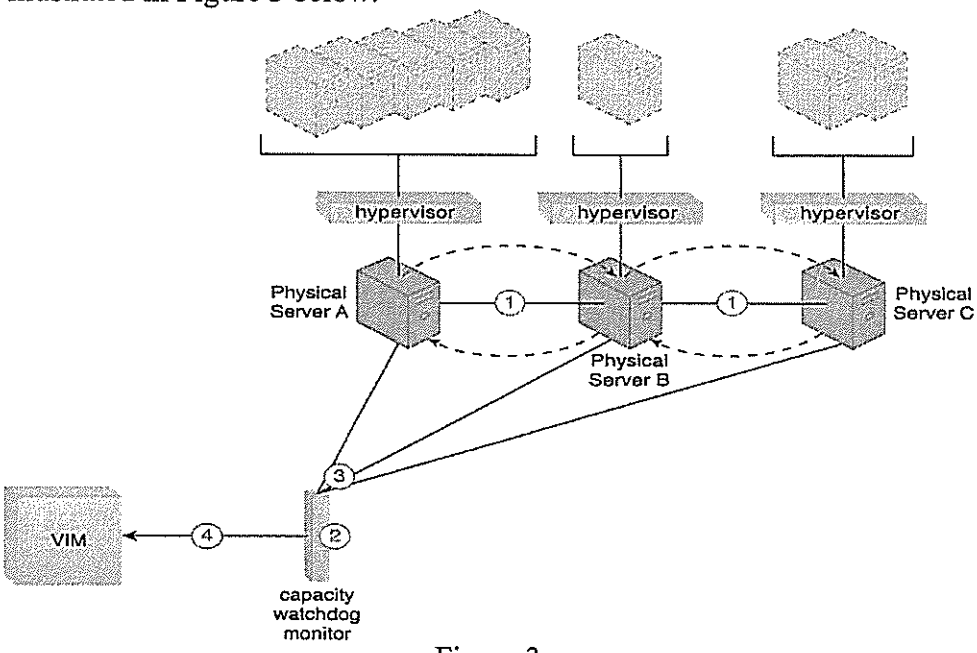

Figure 3

[4 marks]

Continued ...

Question 4 [10 Marks]

(a) Compare the typical set-up for direct I/O access architecture and direct Logical Unit Number (LUN) access architecture.

[2 marks]

(b) List **TWO (2)** issues related to redundant data. Describe how the dynamic data normalization architecture can resolve the issues.

[4 marks]

(c) Explain **FOUR (4)** techniques that can be used by a cloud service provider to build a secure Infrastructure-as-a-Service (IaaS) environments.

[4 marks]

Question 5 [10 Marks]

(a) Compare between up-front cost and on-going cost.

[2 marks]

(b) Evaluate the **FOUR (4)** cloud usage cost metrics.

[4 marks]

(c) Describe any **FOUR (4)** good practices and recommendations for working with Service Level Agreements (SLAs).

[4 marks]

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